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EXAMINER	
PLANTE, JONATHAN R	

ART UNIT	PAPER NUMBER
2112	

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/822,488	TOGASHI, HARUO	
	Examiner	Art Unit	
	Jonathan R. Plante	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 April 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The instant application having Application Number: 10/822488 filed on March 12, 2004 has a total of 6 claims pending in the application; there are 2 independent claims and 4 dependent claims, all of which are ready for examination by the examiner.

Oath/Declaration

2. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. 1.63**.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "11" (FIG. 1) in addition to the usage of non-English characters.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "section 2" (Page 5, Line 5).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "R5E" (Page 8, Lines 9, 21, and 24 | Page 22, Line 6 and 13).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "RTI" (Page 12, Line 15).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "RT1" (Page 14, Line 7).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "RT0" (FIG. 6).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "S25" (Page 15, Line 20).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "BitsTmp" (Page 15, Line 21 | Page 16, Line 1).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "BitTmp" (FIG. 7, Reference SP25).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "SP45" (Page 18, Lines 14, and 15 | Page 19, Line 10).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "SP27" has been used to designate figures in both FIG. 7 and FIG. 13.

The drawings are objected to for reference characters "SP54" and "SP53" in FIG. 13 because they do not match the written description (Page 19, Lines 17, and 22).

FIG. 13 "SP53"	**Specification (Page 19, Paragraph 3)**	**FIG. 13 "SP54"**	**Specification (Page 19, Paragraph 4)**
cb = cbmax bp = bp –1	"the CPU 3 goes to step SP53 and subtracts "1" from the code block number cb"	bp = bp + 1	"the CPU 3 goes to SP54, and sets the code block number cb to a maximum value cbmax. Also, the CPU 3 subtracts "1" from the bit plane number bp"

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The **title** of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. (Applicant is reminded that application titles can consist of 500 or fewer characters)

6. Applicant is reminded of the proper language and format for an **abstract** of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

7. The disclosure is objected to because of the following informalities:

a. The "DESCRIPTION OF THE RELATED ART" (Page 1, Paragraph 2 and 3) is incomplete. Applicant labels "encoding processing is complicated" (Page 1, Paragraph 3), but fails to explain why encoding processing is complicated. Applicant is requested to provide a more detailed description of the related art and the related arts relationship to the instant application.

b. Please replace "**for encoding processings**" (Page 1, Line 19) with "for the encoding processing".

c. Please rewrite Page 1, Paragraph 5 into proper idiomatic English.

d. Please replace "**respectively perform encoding processings**" (Page 2, Line 16) with "respectively performs the encoding processing".

e. Please rewrite Page 2, Paragraph 2 into proper idiomatic English.

f. Please replace "**the encoding processings are**" (Page 3, Line 4) with "the encoding processing is".

g. Please replace "**respective encoding processings are**" (Page 3, Line 10) with "respective encoding processing is".

h. Please included the usage of the term "**motion-picture data**" (Page 5, Line 1) in the "Abstract", "Description of the Related Art", and "Summary of the Invention" to more accurately reflect the scope of the application in the respective parts.

i. Please define acronym "**ITU-R BT656**" (Page 5, Line 2) for clarification.

j. Please replace "**inputted, a video input**" (Page 5, Line 2) with "inputted, into a video input".

k. Please replace "**(VIN: Video In) separates**" (Page 5, Line 3) with "(VIN: Video In) that separates".

l. Please replace "**The section 2**" (Page 5, Line 5) with "The video input section 2".

m. Please define "**extracts picture-encoding areas**" (Page 5, Line 6) for application clarification.

n. Please replace "**register R1E once stores**" (Page 5, Line 8) with "register R1E stores".

o. Please replace "**4 store each**" (Page 5, Line 10) with "4 request that stores each".

p. Please replace "**original picture data**" (Page 5, Line 11) with "original motion-picture data D1".

q. Please replace "**in every on of frames**" (Page 5, Line 13) with "for every one of the frames".

r. Please replace "**in every on of frames**" (Page 5, Line 21) with "for every one of the frames".

s. Please replace "**has a dual pass filter**" (Page 5, Line 23) with "has a dual pass visible light frequency filter" for clarification.

t. Please replace "**is a processing**" (Page 5, Line 25) with "is the process".

u. Please replace "**dividing picture**" (Page 6, Line 1) with "dividing frames" for terminology consistency.

v. Please replace "**by both of**" (Page 6, Line 1) with "for both".

w. Please replace "**That is, the wavelet conversion processing is a processing as follows. An operation**" (Page 6, Line 4) with "The wavelet conversion process is as follows, an operation".

x. Please replace "**executing filtering again is repeated**" (Page 6, Line 7) with "then filtering is again repeated".

y. Please replace "**pictures**" (Page 6, Line 11) with "frame" for terminology consistency.

z. Please replace "**one of levels**" (Page 6, Line 12) with "one of the levels".

aa. Please replace "**up to the level**" (Page 6, Line 12) with "up to level".

bb. Please replace "**store once every**" (Page 7, Line 21) with "store every".

cc. Please replace "**BP 15**" (Page 8, Line 14) with "BP15" to match FIG. 4B and FIG. 4C syntax.

dd. Please clarify from the follow passage "**At this time, the number of those bit planes (hereinafter called processing bit planes) that have actually the bit 1 among the bit planes read from the SDRAM 4 differs for every code block.**" (Page 8, Line 5) what the "bit 1 among the bit planes" represents and also how "every code block" is now differentiated.

ee. Please replace "**stores once the**" (Page 10, Line 2) with "stores the".

ff. Please replace "**another of every**" (Page 10, Line 9) with "another for every".

gg. Please replace "**the processings in the**" (Page 11, Line 1) with "the processing of the".

hh. Please replace "**the cutting off**" (Page 11, Line 2) with "the cutting off of the non-processing bit planes BPW (FIG. 4C)" for clarification.

ii. Please replace "**the processings in**" (Page 11, Line 7) with "the processing in".

jj. Please replace "**the processings in**" (Page 11, Line 15) with "the processing in".

kk. Please replace "**whose bit plane number in the sample S is bp is**" (Page 13, Line 5) with "whose bit plane bp in the sample is".

ll. Please replace "**there is any unprocessed sample or**" (Page 13, Line 12) with "there are any unprocessed samples or".

mm. Please replace "**there is any**" (Page 13, Line 25) with "there are any".

nn. Please replace "**code block.**" (Page 14, Line 1) with "code blocks".

oo. Please verify the follow passage "**Also, the CPU 3 converts the estimated code quantity into a byte amount by dividing the amount of available bytes (AvailableBytes) by 8**" (Page 15, Line 23). The preceding passage causes a conflict with traditional terms used in the art; the usage of the word "byte" is used to represent 8 bits. Application is requested to verify the preceding passage formula (byte amount = available bytes / 8) for accuracy and terminology usage in the art.

pp. Please replace "**every of units of bit**" (Page 17, Line 11) with "each of the bit".

qq. Please replace "**processings in the**" (Page 17, Line 20) with "processing in the".

rr. Please verify from the passage "**quantity of generated codes per frame which are sent from the format generator 10 should be kept constant**" (Page 17, Line 12), that "from" is correctly used. In review of FIG. 5 applicant has data going to "REGISTER R7E" which in turns provides data to "FORMAT GENERATOR 10" (FIG. 1).

ss. Please replace "**codes of headers**" (Page 18, Line 2) with "code for headers".

tt. Please replace "**codes of packet**" (Page 18, Line 5) with "code for packet".

uu. Please replace "**codes at the**" (Page 18, Line 12) with "codes for the".

vv. Please replace "**of units of bit**" (Page 21, Line 21) with "of the units of the bit".

ww. Please replace "**encoder 1**" (Page 21, Line 24) with "encoder 1 (FIG. 1)".

xx. Please replace "**as to remain significant**" (Page 22, Line 7) with "as to maintain significant".

yy. Please replace "**code blocks**" (Page 22, Line 13) with "the code blocks".

zz. Please replace "**every of units of bit planes**" (Page 23, Line 2) with "every unit of the bit planes".

aaa. Please replace "**that seem**" (Page 23, Line 9) with "that represents".

bbb. Please replace "**the processings**" (Page 23, Line 16) with "the processing".

ccc. Please replace "**a filtering processing**" (Page 25, Line 13) with " a filtering process".

ddd. Please replace "**encoding processings**" (Page 25, Line 20) with "encoding processing".

eee. Please replace "**encoding processings**" (Page 26, Line 4) with "encoding processing".

fff. Please replace "**encoding processings**" (Page 26, Line 6) with "encoding process".

ggg. Please replace "**filtering processing**" (Page 26, Line 9) with "filtering process".

hhh. Please replace "**encoding processings**" (Page 26, Line 15) with "encoding processing".

iii. Please replace "**encoding processings are**" (Page 26, Line 19) with "encoding process is".

jjj. Please replace "**encoding processings are**" (Page 26, Line 24) with "encoding process is".

kkk. Please replace "**encoding processings**" (Page 27, Line 1) with "encoding process".

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

8. Claims 1-6 are objected to because of the following informalities:

a. Please replace "**a filtering processing**" (Claim 1, Line 3) with "a filtering process".

b. Please replace "**perform**" (Claim 1, Line 12) with "**performs**".

c. Please replace "**processings**" (Claim 1, Line 13) with "processing".

d. Please replace "**processings**" (Claim 3, Line 4) with "processing".

e. Please replace "**processing**" (Claim 4, Line 3) with "process".

f. Please replace "**processings**" (Claim 4, Line 11) with "processing".

g. Please replace "**encoding processings are**" (Claim 4, Line 15) with "encoding processing is".

h. Please replace "**The method**" (Claim 5, Line 1) with "The encoding method".

i. Please replace "**bit planes is**" (Claim 5, Line 2) with "bit planes are".

j. Please replace "**The method**" (Claim 6, Line 1) with "The encoding method".

k. Please replace "**encoding processings**" (Claim 6, Line 5) with "encoding processing".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1, 4, and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the number" in line fifteen. There is insufficient antecedent basis for this limitation in the claim. For purpose of examination it will be interpreted that "the number" is in reference to "a predetermined number" (Claim 1, Line 8).

Claim 4 recites the limitation "the number" in line twelve. There is insufficient antecedent basis for this limitation in the claim. For purpose of examination it will be interpreted that "the number" is in reference to "a predetermined number" (Claim 4, Line 7).

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: "a fifth step". Claim 6 makes reference to "a sixth step" however the independent claim 4 (Steps 1-4) and the dependent claim 6 (step 6) make no reference to a fifth step in the method.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Sano et al. (US 2003/0002742 A1 January 2, 2003).

As per claims 1 and 4, Sano et al. discloses, "An encoder comprising: filtering generation means which generates a filtering coefficient by performing a filtering processing on inputted picture data;" as **["At the time of the coding, the data of each tile of each component is input to the color space transform and inverse transform section 50 and subjected to a color space transform, and is thereafter**

subjected to a two-dimensional wavelet transform (forward transform) in the two-dimensional wavelet transform section 51 and spatially divided into frequency bands." (Paragraph 0021) and **"when the lowpass filter and highpass filter in the horizontal direction and the lowpass filter and highpass filter in the vertical direction carry out the respective filtering operations" (Paragraph 0042)]**, "division means which divides the filtering coefficient into plural bit planes from an uppermost bit to a lowermost bit of each pixel;" **[" 'Bit-Plane': A two-dimensional array of bits. In this Recommendation International Standard a bit-plane refers to all the bits of the same magnitude in all coefficients or samples. This could refer to a bit-plane in a component, tile-component, code-block, region of interest, or other." (Paragraph 0016), "in order to improve the coding efficiency, the JPEG2000 decomposes the coefficient values into bit-plane units, and the bit-planes may be ordered for every pixel or code block." (Paragraph 0027), "The layer which includes a bit-plane closer to the LSB becomes the quantizing target earlier, and the layer including the bit-plane closer to the MSB becomes the quantizing target later and remains unquantized to the last" (Paragraph 0030),"an image dividing step dividing the image using the specified rectangular tiles; a bit-plane decomposing step decomposing each of the specified tiles dividing the image into bit-planes; a bit-plane ordering step ordering the bit-planes decomposing each of the specified tiles depending on a coding sequence" (Paragraph 0064)** and **"After the DWT transform, a step S4 decomposes the code block into bit-planes, and the decomposed bit-planes are ordered from the MSB to the LSB**

depending on the coding sequence of the decomposed bit-planes. The ordered bit-planes are used to form layers which are ordered from the highest layer to the lowest layer" (Paragraph 0145)] "read control means which removes a predetermined number of bit planes among the plural bit planes, from a lower side" **["The method of discarding the layer closer to the LSB is called truncation, and the quantization rate can finely be controlled by this truncation." (Paragraph 0030), "and a suppressing section suppressing a quantization rate of a region low relative to other regions of the image" (Paragraph 0059)**, and **"specifying rectangular tiles having an arbitrary size ... and a suppressing step suppressing a quantization rate of a region low relative to other regions of the image" (Paragraph 0064)]** "thereafter reads remaining bit planes, and outputs the remaining bit planes in parallel" **["FIG. 17 is a system block diagram showing a first embodiment of an image compression and/or expansion apparatus according to the present invention. The image compression and/or expansion apparatus shown in FIG. 17 includes a color space transform and inverse transform section 10, a first component 11, a second component 12, a third component 13, and a code stream processing section 14." (Paragraph 0111)** and **"The processes of the first, second and third components 11, 12 and 13 are carried out in parallel" (Parallel 0113)]**, "plural encoding means which respectively perform encoding processing on the plural bit planes outputted in parallel from the read control means" **[FIG. 17 is a system block diagram showing a first embodiment of an image compression and/or expansion apparatus according to the present invention. The image compression and/or**

expansion apparatus shown in FIG. 17 includes a color space transform and inverse transform section 10, a first component 11, a second component 12, a third component 13, and a code stream processing section 14. (Paragraph 0111)], "the read control means determines the number of the removed bit planes, so that the quantity of generated codes per frame is kept constant when each of the plural encoding means performs the encoding processing" **["an image compression method comprising a tile specifying step specifying rectangular tiles having an arbitrary size with respect to an image" (Paragraph 0064)**, and **"An arbitrary number of such COM markers may be inserted within the main header or the tile-part header, and a maximum of 65535 bytes of data can be inserted" (Paragraph 0140)]**.

As per claims 2 and 5, Sano et al. discloses, "the read control means removes the predetermined number of bit planes, from the lower side and from the lower hierarchical level, from bit planes stored in storage means" as **["The method of discarding the layer closer to the LSB is called truncation, and the quantization rate can finely be controlled by this truncation" (Paragraph 0030), "layer forming step forming layers by the ordered bit-planes; and a suppressing step suppressing a quantization rate of a region low relative to other regions of the image" (Paragraph 0064), "The bit-plane of the tile boundary vicinity region where the quantization rate is to be relatively suppressed to a low value" (Paragraph 0145), "FIGS. 21A and 21B are diagrams showing states before and after layer restructuring applied with the present invention (Paragraph 0093)**, and **"The quantization rate may be reduced in arbitrary units. For example, the quantization**

rate may be reduced in units of coefficients (pixels), units of code blocks or, in units of subbands" (Paragraph 0167)].

As per claims 3 and 6, Sano et al. discloses, "rate control means which performs feeding forward in order that the quantity of generated codes per frame is kept constant based on results of the encoding processings of the plural encoding means" as **["FIG. 17 is a system block diagram showing a first embodiment of an image compression and/or expansion apparatus according to the present invention. The image compression and/or expansion apparatus shown in FIG. 17 includes a color space transform and inverse transform section 10, a first component 11, a second component 12, a third component 13, and a code stream processing section 14. (Paragraph 0111)]**, **"The processes of the first, second and third components 11, 12 and 13 are carried out in parallel" (Parallel 0113)]**, and **"FIG. 33 is a system block diagram for explaining a fourth embodiment of the image compression apparatus according to the present invention. The image compression apparatus shown in FIG. 33 includes an image memory 101, a color space transform section 102, a tile separating section 103, an interpolation section 104, a wavelet transform section 105, a quantization rate selector 106, a quantization section 107, an entropy coding section 108, a code stream processing section 109, a controller 110, an input/output (I/O) section 111 for inputting image data, an input/output section 112 for outputting compressed image data, and a CPU 113 which are connected via a bus 114"(Paragraph 0152)]**.

Conclusion

13. In addition to reference used under 35 U.S.C. 102, additional prior art references that disclose relevant subject matter on the merits can be found in Andrew et al. (US 6,263,110 B1 July 17, 2001), Tsai et al. (US 5,818,877 October 6, 1998), Saunders (US 6,812,865 B2 November 2, 2004), and Boliek et al. (US 6,141,466 October 31, 2000).

a. Andrew et al. teaches:

i. Coefficients processing/filtering (Summary of Invertion)

ii. Bit plane encoding (Summary of Invertion)

iii. Bit plane / bit sequence (Column 5, Line 16-22)

iv. MSB and LSB (Column 6, Line 1-9)

v. High/Low frequency subbands (Column 7, Line 43-45)

vi. Bit count reduction (Column 7, Line 46-54)

vii. Standardization of bit sting length (Column 9, 11)

viii. Frequency division (Column 13, Line 16-21)

ix. SWEET Coding Method (Column 14, Line 49-65)

x. FIG. 8 Hardware representation i.e. CPU, Memory, I/O interface.

xi. FIG. 18 Bit truncation

b. Tsai et al. teaches:

i. Multiple bit planes (Column 9, Line 44-47)

ii. Image compression (Back Ground)

iii. Run length coding (Column 2, Line 1-10)

iv. Bit count reduction (Column 3, Line 33-40)

v. Hardware (Column 7, Line 6-9)

vi. High/Low frequency subbands (Column 7, Line 27-39)

vii. Encoding (Column 8, Line 42-46)

viii. Bit count reduction (Column 11, Line 7-10)

c. Search Keywords

i. Encode/decoder, processor, co-processor

ii. Image, digital image, JPEG, JPEG2000, video, pixel

iii. Pipeline, parallel, co-processing

iv. Bit, bit plane, byte, tile

v. Compression, file size, reduction, truncation, remove, limit, standardization

vi. High/low frequency, coefficient, filtering

14. The examiner requests, in response to this Office action, support be shown for language added to any original claims on amendment and any new claims. That is, indicate support for newly added claim language by specifically pointing to page(s) and line number(s) in the specification and/or drawing figure(s). This will assist the examiner in prosecuting the application.

When responding to this office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present, in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections See 37 CFR 1.111(c).

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan R. Plante whose telephone number is (571) 272-9780. The examiner can normally be reached on Monday through Friday 9:00 AM to 4:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre M. Vital can be reached on (571) 272-4215. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 6, 2006
JRP

Jonathan R. Plante
Art Unit 2112

PIERRE VITAL
SUPERVISORY PATENT EXAMINER